Earl W. Biesecker
6661 W. Burleigh St.
Milwaukee 10, Wisc. Apr. 59

Precision SHOOTING

VOL. 3, NO. 1 SINGLE COPY 25¢—$3.00 A YEAR MAY 1958

THE HIGH STANDARD "DOUBLE-NINE" REVOLVER

This new revolver, now in production, is the High Standard Manufacturing Corporation's bid in the market created by television and movie "Western" features. It differs from other .22 caliber guns of this type in being double-action and having a cylinder capacity of nine cartridges. Other features include single-stroke multiple ejector, rebounding hammer with automatic safety block, scored non-slip trigger and movable square-notched rear sight. This cross-breeding of old and new may be a desirable hybrid in the handgun field.

a magazine for Shooters by Shooters

Precision Shooting is published monthly by Precision Shooting, Inc.

Editorial office at Lyndonville, Vt.

Business office at 85 Eastern Ave., St. Johnsbury, Vt.

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Subscription rates:—To the U. S., Canada and U. S. possessions, 1 year $3.00; 2 years $5.00. All other subscriptions $4.00. Please address all correspondence concerning editorial and photographs to: Precision Shooting, Lyndonville, Vt. and all subscriptions and advertising to Precision Shooting, 85 Eastern Ave., St. Johnsbury, Vt.

Change of address requires 60 days' notice.

Precision Shooting is entered at Post Office, St. Johnsbury, Vt. as second-class mail.

NEW DIRECTORS ELECTED

Sam Bond, New Philadelphia, Ohio, and Robert Stinehour, Newburgh, New York, were elected Directors of Precision Shooting Inc. at the annual stockholders meeting in Bennington, Vt., April 19th. Bond and Stinehour take the places of E. E. McNally and Wm. E. Cotter, both resigned. Henry Butterfield and P. H. Teachout, Vermont, Dermot Reilly, Albany, N. Y., Irven M. Mohnkern, State College, Pa., and Crawford H. Hollidge, Marstons Mills, Mass., were re-elected as directors.

The Board of Directors, at their annual meeting following the stockholders meeting, re-elected Henry Butterfield as President and Manager; Irven M. Mohnkern, Vice President; Dermot Reilly, Treasurer; and P. H. Teachout, Secretary.

TWO PRECISION SHOOTING INCREASES

A considerable number of you readers have, at one time or another, voiced a desire for more of the information, news and discussions that you get each month in Precision SHOOTING. A growing number of you are contributing worthwhile information and news items, and are taking an active part in the discussions, so that we do have more material to pass along.

However, to increase this service of distribution will require additional expense for printing and mailing of a larger magazine. We think you know what you want and are mature enough to realize that if you get more that it will have to cost more. With this belief, the Board of Directors approved the following course of action at their annual meeting in April:

Beginning with the June 1958 issue, the magazine will be increased in size to a minimum of twenty (20) pages per issue.

Effective July 1, 1958, the subscription rates will be increased to $4.00 for a one year subscription and $7.00 for a two year subscription, in the United States and possessions, Canada and Mexico. An additional $1.00 per year for subscriptions from other countries.

Present subscribers may, if they wish, extend their present subscription terms at the old rates of $3.00 per year or $5.00 for two years, if prepaid orders are forwarded prior to July 1, 1958.

LETTERS

Murrysville, Pa.

Dear Phil:

I have been very interested to follow all the articles, comments, etc. concerning ball powder. I have shot about 8,000 rounds of Mk III (55KC) through my 52HB and now have a ring just ahead of the chamber which is most pronounced at the bottom of the barrel and feathering out as it progresses up the sides. The top land and grooves appear to be undamaged. I know of a number of other rifles in this area similarly damaged. It looks like Mr. Hallberg and Mr. Dodge could start a good sized club if a ringed barrel were a membership requirement. This would seem to refute one paragraph of Mr. Silk's letter in Feb. issue, or else we have found another batch of powder that will peen chambers and barrels.

The powder used in this lot is a dull gray-green in color and seems to be largely made up of various sizes of balls flattened to .006 as near as I can tell. Although Mr. Silk says they are not supposed to be there, there are in addition a rather large number of spherical grains ranging in size from less than the web thickness of the rolled grains to as much as .015, which would seem to indicate that these spherical grains were somehow added after the flattened grains had passed through the rolls.

Lot #55KC has given me good accuracy, but I sure don't like what it has done to my barrel. Perhaps Western might render us a service and let us in on what lot numbers are giving trouble and what has been done to rectify the situation.

I have used some Ball powder in the .222 (24.5 gr. with 50 gr. bullets) and in the .25 Souper with no trouble. In the latter I have fired about 1800 rounds loaded with 34.5 Gr. and 100 gr. bullet which makes a nice load at 300 meters. It is not a full powder load. This powder was all spherical grains and uniform in size, and gave good results. At 35.5 to 36 grs., in my rifle, accuracy began to disappear, with erratic shots, so I settled on 34.5 as the best load.

William R. Funk

Thomasville, N. C.

Dear Mr. Teachout:

I am one of the very few NBRSA members in North Carolina, and believe me, I get pretty lonesome in a non shooting community. There is little or no shooting around here—let alone dead serious bench rest shooting.

I would like to make a comment in regards to the column 'Stool Shootin Stuff' in the February issue. Mr. Stuhlschuter states that he doesn't think that the standard, run-of-mill factory rifles have good bedding jobs at all. I have had a very different experience with standard factory rifles, altogether.

Since the first of the year I have shot and witnessed the shooting of five different **standard factory rifles**; four of them were Winchester Model 70's and one Remington 721-30-06. Two of the Winchesters were light weights in .243 and 30-06 caliber. The others were standard weights in .220 Swift and .270 calibers. The .270, which is mine, has averaged slightly **less** than one minute of angle since the first of the year. A few days ago I fired four 5-shot groups with it and averaged 19/32 minute of angle for the four groups. The rifle is mounted with a Bausch & Lomb 2½ X 8 scope set at eight power. The load was 56 grains of 4350 behind the 130 grain Sierra boattail bullet. I used Remington cases and primers.

The light weight M70 .30-06, which belongs to a friend, has averaged 1½ minute of angle consistently, which is mighty fine hunting accuracy for any rifle, let alone a light weight. The light weight .243 and the standard weight .220 Swift have both averaged less than one minute of angle, and the Rem. 721-.30-06 will average 1½ minute of angle without even trying.

All of this shooting was of course done with handloads. Working the triggers down to a decent pull is the only work that has been done to the rifles. I have not taken the trouble to check the bedding on any of the rifles, and as long as they shoot like that I'm not going to. All of us know that the best barrel in the world just isn't going to shoot its best if it doesn't have a proper bedding job.

Now don't get me wrong about all of this. I am not trying to contradict Mr. Stuhlschuter's statement, I am merely relating some recent experiences and thought someone else might enjoy hearing about them.

Sincerely yours,

Bradford Myers

Allentown, Pa.

Gentlemen:

I would like to take exception on six (6) points of the article 'Powerhouse & Plinker' by Kent Bellah in your March 1958 issue. I sincerely hope that you will see fit to publish the following in your next issue. It is my opinion that both sides of the story should be presented to your subscribers.

Mr. Bellah evidently thinks that Smith & Wesson is the only handgun worth talking about as well as being, in my opinion, off the base insofar as some of his statements, in the above mentioned article, are concerned.

1) The statement that 16.5 grains of fast Bullseye is more than a TRIPLE charge. A TRIPLE charge of Bullseye would be somewhere around 8.1 to 9 grains at the most.

2) The statement at the beginning of his second paragraph about his K-38 being the most famous of all .38 target guns. Perhaps Mr. Bellah has never heard of the old time company known as COLT. It seems to me that when anyone talks of a gun being the most famous of all, he should be very careful. Colt was famous and known throughout the United States long before the public ever heard of Smith & Wesson.

3) The statement about the Ace trigger shoe positively staying in place. I most certainly take exception to this. In all fairness to the Ace trigger shoe, I must say that I think it is the best on the market. Insofar as its staying put is concerned I will disagree. I have Ace trigger shoes on my Colt 45, Colt .38 Officers Model Match and High Standard Supermatic .22. The shoes shoot loose unless the Allen screws are dipped in shellac. My shoe on the .22 came loose only 2 months ago at the Indoor Sectional championship at West Chester, Pa., and as a result cost me an alibi.

4) The statement about the K frame .38's being more widely overloaded than any other model. It is my opinion that anyone who is foolish enough to do this will overload with any gun available until that person has been taught a lesson the hard way.

5) The statement about the K-38 being the modern version of the gun Ed McGivern used to fire 5 accurately placed shots in a timed 2/5 second. Any good .38 will do the same thing and just as accurately.

6) Mr. Bellah is evidently very partial to a Smith, but I have been shooting in competition for many years, and I don't know of a pistol match anywhere in the East that I have not attended at some time or another, and I would say

S. A. "Si" Oster, founder and proprietor of Llanerch Gun Shop in Upper Darby, Pa., died of a heart attack on March 25, 1958. Mr. Oster was well and widely known from his associations at rifle matches throughout the Northeast and as a regular exhibitor on Commercial Row at Camp Perry in recent years. He has long been a hard working promoter of organized target shooting in his home area. Always a cheerful, pleasant and helpful person, he will be sorely missed by his host of friends.

Mr. Oster's son Roy, who has been actively associated with his father in business since graduation from college, will continue the Llanerch Gun Shop business.

that at least 95% of the time an alibi is called during the center fire matches the gun will be a Smith & Wesson. It seems they do not have a suitable arrangement to be able to put enough tension on the spring and as a result the firing pin does not hit hard enough to set off a primer that may be the least bit hard. I have helped many owners of Smiths, that had this condition, by making a shim from a .38 case and inserting it between the tension screw and the spring.

Very truly yours,

John S. Kuntz

(Editor's comment on above: Point 1—Bellah was referring to the .44 Magnum gun and the latest Lyman Handbook gives max. charges for the **.44 Special** of from 4.9 to 6.8 grains of Bullseye for heavy to light bullets. Point 5—I do not have McGivern's book at hand but my memory is that McGivern did use S&W guns for the particular feat mentioned, and that the firing was double-action shooting. No doubt McGivern used what he considered the best guns, **for him**, for his speed shooting.)

NEWSPAPER SPONSORS JUNIOR RIFLE COMPETITION

The Milwaukee Sentinel (Wisconsin) has for several years conducted a competitive program for junior riflemen. It is a team competition. A postal qualification round is first fired. A number of the high ranking teams in the postal qualification which can be accommodated are then invited to compete shoulder-to-shoulder at the annual sports show the Sentinel sponsors each March. The competition is in two divisions; division A firing 10 shots in each the prone and standing positions, and division B firing two 10 shot targets prone—teams of four firing members.

In the 1958 competitions, 75 division A teams fired the postal qualifying round and 38 teams were invited to compete at the show, while 50 division B teams fired qualifying scores and 26 teams were invited to compete at the show. All teams that were invited to compete shoulder-to-shoulder at the Sports Show did so.

Some excellent scores were fired at the Sports Show. Appleton Structural Steelers No. 1 team won in A division with team score of 744 X 800 and individual scores of 191, 189, 184 and 180 for the prone-standing course. Northwestern Military and Naval Academy No. 1 team were close behind with team score of 738 and individual scores of 191, 185, 182 and 180. Winning division B team score was 770 X 800 with individual scores of 197, 195, 194 and 184 for the 20 shots prone. In division A, 28 of the total of 152 young shooters fired scores of 180 or better, with three 191's for high.

MAINE STATE CHAMPIONSHIP PISTOL TOURNAMENT

NRA Registered State Championship

At Blue Hill, Maine—Saturday and Sunday, June 7-8, 1958

2700 point three gun aggregate—Awards in all classes

For programs, write: E. S. Kimball, West Scarboro, Maine

Top individual score in division B was a 197 for 20 shots prone.

Chester Snavely, experienced shooter and shooting organization worker who assists in conducting this program, offers the following comment:

"Eleven of the 125 teams which fired the postal qualifying round were military school of ROTC—113 were NRA Junior Clubs—only 18 of the 125 were Junior clubs sponsored by Senior clubs. This is contrary to the beliefs of our friends in the State Associations, but nevertheless a sad fact. The vast majority of the junior clubs are sponsored by various community service and veteran organizations, and a pleasing number of schools and recreation departments. About 50% of the coaches of these teams are or have been shooters, while the other half learned as they went along. The shooters coaching clubs are nearly always short of experienced help."

(Editor's comment: The situation mentioned by Mr. Snavely is not confined to Wisconsin but is all too common and nation wide. One can draw his own conclusions as to why so many shooting clubs are destroyed by dry-rot.)

THE TOURNAMENT CIRCUIT

NEW RECORD OFFHAND MATCH SCORE

Mr. D. R. V. Parish, Sussex, England, beat the field of 246 contestants in the 40th Anniversary American Smallbore Indoor Record Match with a near perfect and new record score of 2497 X 2500 for 100 shots offhand on the 25 count Ring target.

This forty year old postal match, the last remaining large scale Schuetzen type match conducted in the United States, was inaugurated by Chris Westergarad of Whiting, Iowa, one of the leading contenders in the final days of the heyday of Schuetzen competition in the U. S. and a competitor in this 1958 match with some 55 years of competitive shooting experience. It is fired at 50 feet range on Schuetzen type 25 count targets, with any .22 cal. rim fire rifle (Free and Schuetzen styles included) with any sights. It is proclaimed as "open to anyone in the World." The present target has a ¼ inch white center scoring 25 and 1/6 inch scoring rings.

The previous record score for this match is 2496, Mike Altman of Luverne, Iowa, winning the 1953 match with this score, shooting scope sights, and Erling Kingshaug, Oslo, Norway, shooting a 2496 to win the 1956 match, shooting metallic sights. Parish, one of Britain's top shooters, shot with metallic sights to set the new record for the match.

Roy E. Oster, Upper Darby, Pa. and Fergus Ward, San Francisco, Calif. placed 2nd and 3rd in the 1958 match, each with a score of 2493. Wm. C. Roos, Jr., Sharon, Pa. and Barry Trew, Bentleyville, Pa. were 4th and 5th, each with 2492. Roos and Trew are both young shooters and consistent top-notch offhand competitors. Trew won this match in 1957 with a score of 2495.

Barry Trew, Fergus Ward and August Westergaard, Sloan, Iowa, ranked in that order with the only possible 250 scores in the 10-shot King Match. This match was fired on a more difficult 25 count Ring target which was adopted for this match this year. Fred Willing of New York fired a 249 for 4th place money.

RECORD BREAKING PISTOL SCORES IN NEW HAMPSHIRE

Charles Hery of Everett, Mass., beat the field of 94 competitors at Manchester, N. H., April 19-20, to win the title of New Hampshire State Gallery Pistol Champion. His winning aggregate score of 875 tops by a point the previous national record of 874 by Gertrude Backstrom of Washington State. Hery also fired a 294 score over the three stage gallery course to better the 293 record he had fired the previous week in the Massachusetts State Gallery Pistol Championships.

Armand Roux of the host club, Wilson Hill Pistol Club of Manchester, won the N. H. resident championship with an aggregate of 839.

PENNSYLVANIA JUNIOR RIFLE CHAMPIONSHIPS

Harry M. Malik, Jr., 17 year old Washington, Pa. shooter, won the Pennsylvania Junior Indoor Rifle Championship, at Harrisburg, March 24-30, beating 395 entrants with his score of 292 for the prone, kneeling, standing course. He topped Bradford's Larry Myers by a single point, and Sharon's Bill Houck and Bill Roos by two points. Malik had recently won the NRA Junior Sectional at Bradford with a 386 four position score.

Coach Richard Giddings' Bradford No. 1 team shot a state record 753 score for the prone-standing four-man team match to outpoint Frazier-Simplex by four points, and turning the tables from the NRA Sectional fray at Bradford where the Frazier-Simplex team beat Bradford 1521 to 1493 over the four position course.

The tournament was held on a 16-point range which was installed in less than 12 working hours in an unused auditorium.

MAINE GALLERY PISTOL CHAMPIONSHIP

Walter Kistler, Worcester, Mass., topped the 56 competitor field in the Maine State Gallery Pistol Championship tournament at Belfast, March 16th, to win the grand aggregate with an 855 score. He won the slow fire stage with a 187, the timed fire with 194, rapid fire with 195 and was 3rd in the three stage course with 279. John Wixon, Ellsworth, Maine, was 2nd aggregate with 840 and won the three stage event with 283. John H. Pinkham, Litchfield, Maine, was 3rd in the aggregate with 833.

ARMY HIGH POWER RIFLE TEAMS START SUMMER CAMPAIGN

The Army Rifle Team at Fort Benning had to split into two squads in order to compete (by invitation) in both Arizona and Arkansas State High-Power Rifle Championships on the same weekend, April 12-13.

At Camp Chaffee, Ark., Army's Sgt.

(Continued on Page Six)

SWAGED HANDGUN BULLETS

By Mason Williams

No matter how carefully a handloader casts bullets, even with the finest molds, less than twenty percent of his completed bullets can be classified as truly perfect bullets. By a perfect bullet, I mean one that has a core of a uniformly blended mixture of lead, a core that has no hollow spots, holes or anything that will throw it off center when rotating. This bullet should be a fully formed bullet filled out into each and every corner of the mold. It is not too easy to obtain one such bullet, but to cast three or four hundred identical bullets with weight variations running less than 0.3 of a grain is a problem. Few handloaders have the time or the patience to run sufficient perfect bullets to take care of their target shooting requirements. As a result, many a finely held let off on the range will give an eight. There was something about the bullet that was not quite right. Another inherent danger and variable in cast bullets is sizing. A bullet that may have been cast perfect and true, may have a bit more lead shaved off one side than the other during sizing.

I have done a great deal of bullet testing at one hundred yards using sandbags and a bench rest. A comparative test between cast bullets and swaged bullets brings out two basic facts. The reason for casting bullets is economy. The fundamental reason behind swaging is accuracy. Nothing can ever replace a perfect projectile. The more perfect the projectile, the more accurately the handgun will shoot, all other factors being equal. Sparked by the incessant search for accuracy by the Bench Rest Shooters, there has been a greater improvement in bullets since the war than in the preceding fifty years. It has been found by the Bench Rest Shooters that nothing can equal the accuracy of a properly swaged bullet. Further, to properly swage a bullet, the bullet should be swaged up to size, not down to size.

Unfortunately swaging rifle bullets had nothing to do with handgun bullets until very recently. Finally, in the past few years, what was an obvious fact in one section of the shooting game, was finally brought to the attention of the handgun shooters. Something was done about it and the accuracy and flexibility of swaged rifle bullets was made available to the handgun shooter and he can now buy commercially equipment with which to swage the finest bullets.

As far as I know, there are only two types of swaged handgun bullets on the market today. The conventional type bullets and the Harvey type bullet. The conventional type bullet is what the name implies, a lead, lubricated bullet. The Harvey bullet is an entirely new conception in handgun bullet design. There are two different classes of Harvey bullets. The first is a pure lead, zinc base bullet. It is not lubricated. Through a sheradizing action, the zinc base wipes out the barrel as the bullet is fired and reduces leading to a minimum. The zinc base is locked onto the base of the bullet, so that each bullet has a perfect base. Barrel wear is no greater than with lead, lubricated bullets. After about two hundred rounds, the sheradizing affect of the zinc base practically eliminates any possibility of leading. It also leaves a fine coating in the barrel that protects the barrel from rust and wear. Some of the rougher finished barrels require more breaking in than others. These swaged, zinc base bullets are not recommended for high velocity loads. They are designed for target shooting and normal factory velocities.

The second class of Harvey bullet is the jacketed, high velocity bullet. This bullet, because of its design, has opened an entirely new field to handgun shooters. There is no leading problem. Jacketed bullets, properly swaged with crimped jackets, can withstand velocities far in excess of any present day handgun velocities. They give excellent accuracy and, being swaged, require no checking or lubrication. Anyone interested in hunting with a handgun and any police department interested in increasing the potential of its handguns, would do well to look into the Harvey jacketed bullets.

There are a few die manufacturers who turn out dies to swage the conventional, lubricated lead bullets. There is—to the best of my knowledge—only one manufacturer who turns out dies to swage the zinc base bullets and the high velocity, jacketed hunting bullets. Because both the zinc base and the jacketed bullets are a radical departure from previous bullet design and are based on an entirely new line of thinking, I will use them in my discussion of bullet swaging.

Using these dies, a shooter can swage superbly accurate match bullets using the zinc bases. Then he can swage the jacketed bullets and in the same target handgun, he can reach velocities of 2,000 fps, all without leading or dangerously high pressure, yet retaining the finest match accuracy at ranges of one hundred and one hundred and fifty yards. The potential of these bullets has not yet even been touched. Prior to the development of these handgun swaging dies, this flexibility was entirely lacking in handgun shooting.

Swaged bullets start with a pure lead core. This core may be cast in special molds. Some shooters prefer to do this for economy. Most shooters buy the lead wire directly from the manufacturer. This ensures a pure lead core that is solid, without air holes and of the same lead consistency throughout. For cal. .38 bullets, cal. .312 wire is used. For cal. .44 and cal. .45 bullets, cal. .348 wire is used. Remember, the finest bullets are made through swaging them up to size. Further, this wire will always fit inside the copper jacket in the event jacketed bullets are also swaged.

The next item that is required is a wire cutter. Each weight bullet requires a different weight core. Accuracy in cutting the lead wire and ease of adjustment are two very necessary requirements in any lead cutter. At the present time I have yet to find a wire cutter that is adequate. There are a few on the market. None of them meet the requirements necessary to cut lead cores for handgun bullets. Most shooters that I know have either made their own wire cutters or have had them made by machinists. My advice to anyone considering the swaging of handgun bullets is to have a lead wire cutter made by a good machinist. It will guarantee even weight cores, which, after all, are the heart of the bullet.

Assuming that the wire cutter is on hand and has been properly adjusted to cut the correct length cores for the bullet and assuming that the swaging dies are properly adjusted, sit down and run off three or four hundred cores at one time. It's easy and fast. I try to keep a cigar box full of cores on hand all the time. When several different weight bullets are being swaged, different weight cores must be cut. The cigar boxes should be labeled showing the weight bullets the cores are cut to make.

The dies that I am most familiar with are the Harvey Bolt Action Dies. One word of caution. These Harvey Bolt Action dies are not production dies. I make bullets for my own personal shooting and testing. I do a great deal of handgun shooting and these dies handle the job fast and efficiently. The big Harvey Ejection dies are an entirely different breed. They are production dies for bullet makers who insist on maximum volume and perfect bullets for their customers. They are fast, precise and expensive. A set of these big Harvey Ejection dies would be ideal for a shooting club or a group of shooters who get together to load and who could pool expenses.

Swaging dies consist of three parts. The first is a heavy hardened steel body through which has been drilled a hole. This hole controls the maximum expansion of the soft lead slug and determines the overall diameter of the finished bullet.

The weight of the bullet plus the shape are all controlled through the nose die once the correct body bearing has been established for that particular bullet. The nose die is the second part of the swaging die. This fits into the upper end of the steel body die and stops the core from going further. The soft lead takes the shape of the nose die and the bullet is formed. At the junction of the nose die and the body die there is a bleed off of surplus lead. This is a necessary and a healthy situation. It brings the bullet down to correct weight. The amount of bleed off is controlled by the weight of the cores when they are cut. This is why it is so important to have an extremely accurate core cutter. The bleed off is generally paper thin and can be easily and rapidly scraped off with the finger nail. I do this just before loading the bullet into the cartridge case. On the other hand, too light and too short a lead core will give no bleed off and will result in an imperfectly formed nose. It takes a bit of practice and checking to adjust both the wire cutter and the dies to produce a perfect bullet.

The third part of the swaging die is the ram that forces the lead core plus zinc base, gas check or jacket up through the body die into the nose die. On the Harvey Bolt Action die this ram also ejects the bullet from the top of the die. For jacketed bullets a flat headed ram is used. For zinc base bullets a ram with a dimpled head is used.

A well cut lead core is merely the start of a perfect bullet. Zinc washers are just as perfect as it is commercially possible to make them. As a result, the easiest and fastest bullets to swage are the zinc base bullets. With good cores, it is almost impossible to make a bad one.

With jacketed bullets, the story is a bit different. There are gas checks. There are jackets that come part way up the bearing body towards the shoulder. There are others that just reach the shoulder. Some of the newest Harvey bullets have extremely long jackets that leave only a small tip of lead at the nose of the bullet. All these jackets require different manufacturing specifications. A good core plus an uneven jacket will not

combine to form a good bullet. Only that jacket that was designed for the bullet that is being swaged will give the desired accuracy and results.

Up until the advent of swaged, jacketed, high velocity bullets, there was no problem of keeping the jackets on handgun bullets. At high velocities however, the bullet has a bad habit of shedding the jacket, sometimes in flight, sometimes upon impact, sometimes upon penetration. This affected both accuracy and expansion. In order to stop this, James Harvey developed a crimper that can be used for both jackets and gas checks. This crimper fits in the regular bullet swaging tool, is fast and simple to use. To the best of my knowledge, this is the only crimper currently on the market. This Harvey jacket crimper gives the handgun shooter a high velocity, jacketed bullet that will perform as well, and in many cases better, than many rifle bullets.

Unlike cast bullets, whose shapes are predetermined by the shape of the mold, swaged bullets may be varied, in both weight and nose shape. The same die, with different nose dies will turn out swaged bullets from 106 grains up to 156 grains in cal. .357. In addition, the bullets may be zinc base, jacketed or gas checks. This is flexibility that has been unobtainable in the past. This gives handloaders every possible combination of bullet for every purpose.

However, one word of warning is necessary. There are two factors that basicly determine handgun pressures. The first is the powder charge. The second is the body bearing of the bullet. In the past, body bearing in handgun bullets was not too important a consideration since the handloader purchased a mold with a bullet designed by the manufacturer. The bullet was a known, stable factor.

But now, with swaging dies, bullet body bearing may be altered by the handloader. Attempts to increase body bearing result in an abrupt increase in pressures. Any decrease in body bearing may be fatal to accuracy. Factory instructions covering the adjustment of the dies should be carefully followed. When the Harvey dies are made, they are designed to be used with certain nose dies to give certain bullet weights. This is the only safe method of changing bullet weight. Most Harvey bullets have a minimum body bearing. Pressures and velocities are based on these original body bearing surfaces. They should not be altered. Harvey bullet design is new and radical. It is the result of a thorough and very detailed series of tests. Everything was taken into consideration when the tests were being conducted. It is therefore vitally importatnt to be guided by the loading data tables furnished by Lakeville Arms, Inc. All data has been actually verified by either Hercules or White Laboratories. Other loading data should not be used as a guide. I do not wish to imply in any way that it is dangerous to experiment with Harvey bullets. It is not, so long as sound ballistic laws are followed. Actually, because of their design, Harvey bullets will show less pressure than most ordinary cast bullets.

Once the bullet is removed from the swaging die and the bleed off is scraped off, it is ready to be loaded into the cartridge case. Bullets may be swaged without any preparation. They may be immediately loaded without preparation. A person can swage bullets for five minutes or for five hours. He can stop at any time.

Swaging bullets is no different from any other work. Practice makes perfect and nothing can replace experience. The first one hundred bullets will probably be well botched. It takes a certain feel to get the hang of swaging. Once the cores are correctly cut and the dies finally set at just the proper adjustment, then as each stroke of the lever is completed the "feel" tells whether it will be a good bullet or a bad bullet. Bad bullets are extremely rare and will be noticed at once. They are usually caused by an improperly cut core.

There are many tools that can be used for swaging bullets. The two that give complete satisfaction at reasonable price are the Hollywood Senior and the Pacific Super. Both are perfectly adequate for swaging pure lead bullets with zinc bases, gas checks and jacketed bullets in Harvey dies. If for any reason pure lead is not used, then the strain on both dies and tools may become excessive. Pure lead is used both for ease of handling and for unexcelled shocking power on game. Nothing equals it.

When loading pure lead, swaged bullets, there are three details to be kept in mind. First: Case mouths should be definitely belled and then reamed. Two: Cases should be resized so that the bullet is a tight fit inside the case. Lead is a soft metal. Any excessive crimp tears the soft metal before the crimp is finally opened up. There is not much percentage in swaging perfect bullets if the crimp rips and deforms the body of the bullet.

The third detail is the most important. Be sure to seat your bullet to the proper depth, then crimp. Do not seat and crimp in one operation. When seating and crimping in one operation, the bullet is still being forced down into the case as the case mouth is squeezed inward by the crimping shoulder in the die. The lead portion of the bullet forward of the crimp is expanded. When this oversize belt hits the forcing cone in the barrel there is lead splatter. The resulting build up of lead on the face of the cylinder and on the rear of the barrel becomes so thick that the revolver will no longer function.

Another detail to watch when working with pure lead bullets, is to be certain that the seating nose die is high polished and that any sharp corners are rounded off. Otherwise the nose of the bullet will catch, tear and the bullet will tip slightly, becoming deformed.

These are all small mechanical details that can be easily worked out. Once they are, no one who has ever swaged bullets will ever go back to casting. Casting has a definite place in the handloading game, but so has swaging. Swaging eliminates the preparatory work required for casting. It eliminates much of the equipment. It eliminates the danger of having molten lead on hand. Most important of all, it almost guarantees perfect bullets. It assures the handloader a variety of bullets that has formerly been entirely out of his grasp.

For the first time in history, the handloader has bullets, cases and powders at his command that exceed the potentials of the handguns that are now on the market. This combination of components should force far reaching developments in the handgun design and manufacturing business.

Hi-Standard "Sport King" Pistol

THE NEW HIGH STANDARD SPORT-KING AUTO PISTOL

Outside of the fact that this gun has fixed sights, which cannot be adapted to the shooter's requirements except by the time-honored method of tapping the rear sight over for windage correction, and filing front or rear sight for elevation change, this gun has practically everything a target shooter wants. In other words it is an ideal arm for a holster weapon in the woods or on a fishing trip, besides providing at a comparatively modest price easy entertainment for the occasional plinker.

Most of the new features present in the "SUPERMATIC" High Standard line are found in this gun. The barrel is removable, as in previous Hi-Standard models, but is locked in place immovably by a much more powerful spring than was formerly used, and a camming action with a vise-like grip. The firing pin is of heavy cylindrical section with no flatted parts to provide points of possible failure. The hammer release is of a design never before seen by this writer, the sear and notch being in rear of the hammer instead of in front, a design which may make for more uniform trigger pull, and certainly allows more room for the release action. The safety completely disengages the trigger mechanism from the hammer, and is very positive. Trigger pull on the gun inspected is clean and sharp, at about 3½ lbs.

The SPORT-KING comes in two barrel lengths—4½ and 6¾ inches. The shorter barrel makes for ease of carrying, while the longer barrel is perhaps a shade better for target shooting due to the longer sight radius. Price, with either length barrel, is $46.50, and with both barrels $54.50. This gun is intended for .22 long rifle only, while a companion model, the FLITE-KING, apparently similar in all respects, is designed for the more economical but less powerful .22 short cartridge. Both SPORT-KING and FLITE-KING are also made in light-weight models, at the same price.

The SPORT-KING gun inspected is well-balanced, substantial, apparently free of misfires and jams under repeated firing, and thoroughly accurate. To a practiced pistol shooter it certainly gives the impression of being a solid handful of real gun, a pleasure to own and to use.

William E. Peterson

If the arms manufacturers continue to bring out new cartridges for rifles every few months you should soon be able to select any bore diameter you desire, to thousandths of an inch. Mebbe the 'Wildcatters' are going to be outwildcatted.

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The Tournament Circuit

(Continued from Page Three)

Ronald Perry won the State Individual Championship with a 496 X 500 and the Adjutant General's Aggregate with 397-43V. M/Sgt. Floyd L. Fraizer won the Service Rifle Championship with 392-43V.

Army won the Service Rifle Team Championship with a 1542 score and the Bolt Gun Team Championship with 1562.

At Phoenix, Arizona, Army's M/Sgt. Eugene F. Spradlin won the State Individual Championship with a 249-26V score. The Army team annexed the State Team Championship with a 986-111V, M/Sgt. George Thorson pacing the team with a 249-27V tally.

Riverside, California . . . Diamond Jubilee Inter-Military Small Bore Rifle and Pistol Tournaments March 15 and 16. Top shooters receive trophies . . . Mayor E. V. Dales (left) and Ted Adsit, city manager, hold two of the trophies won by top shooters in the Rifle Division of the two day Inter-Military Meet at the brand new Riverside Ranges. Lt. John Bertva (right) and Lt. Richard J. Gorey both of Lackland Air Force Base, San Antonio, Texas topped the field in marksmanship. Big trophy held by the mayor is the Diamond Jubilee Trophy for the highest team score which was won by the Lackland team. Photo by Riverside Press photog. WYCL

GALLERY RIFLE AT SACRAMENTO, CALIF.

Nick Kroeze of Marysville scored 395 to top the field of 42 in the Second Annual Sacramento Valley Indoor Rifle Tournament, April 4-5. Glen Williams scored 393, Manny Camillo (Hi-Ex) 390, and Ronald Vincent (Hi-SS) 392. Heavy rains and snow in northern Calif. caused cancellation of a number of entries.

EL PASO, TEXAS, PISTOL MATCH

Shooting a 90 shot center fire aggregate plus a .22 and .45 National Match Course, W. T. Toney, Jr. made the win with 1427, just a breath away from Wm. C. Joyner with 1426. Presley O'Gren was a few pegs down in third place with 1413. Forty police, civilian and military shooters competed in this monthly match, April 13th.

CALIFORNIA HI-POWER RIFLE LEAGUE

Squaw Valley Club was host for the April 13th Valley Shooting League match. High individual scorers in the aggregate were—John Harness 244-28V, Henry Wright 242-20V, John Kennett 238-18V and Wallace Ley 237-17V. John Kennett, Leonard Butler, Charles Garabedian and Bob Vickerey were all tied up at 500 yds. prone slow fire, each with a 50 9V score. The course includes a 300 yd. S. F. sitting stage in which Bert Dickinson scored 50-8V.

CALIFORNIA COMMUNITY RANGE PROJECT IN BUSINESS

The Riverside Rifle and Revolver Ranges went into 'orbit' on March 15th and 16th, with bands playing and flags flying. It was a grand opening of a year long series of DIAMOND JUBILEE celebrations to proclaim the 75th anniversary of the city's founding.

The RIVERSIDE DIAMOND JUBILEE Inter Military small bore rifle and pistol tournaments were a joint project in which the City of Riverside and the 15th Air Force S. A. C. collaborated. The plural is used advisedly for there are two ranges and there were two complete tournaments running simultaneously side by side.

Nearly a hundred persons were flown in from far flung bases of the Strategic Air Command. All five of the major military establishments were well represented, and the goodly company was augmented by units from the Reserves and the National Guard.

NRA's Col. Tod Sloan; Major Robert Marx, Travis A. F. B.; Merrill and Gladys Rising and Clarence Backstrand of the Los Angeles Rifle & Revolver Club cooperated with the local people and assisted in operating the tournaments. The double header shoot got off to a resounding start and ended with an all around feeling of good fellowship and a job well done. This was happily expressed by the departing spectators and participants alike.

The Riverside Ranges are the result of some 8,000 man hours of contributed time, augmented by money supplied by the city council and donations in kind from local industries. "It just goes to show what a bunch of inspired citizens can do, with enterprise and self determining hard work," stated Mayor E. V. Dales. It is said that the completed ranges could not be replaced contractually for less than $65,000. The actual cash expended was only $15,000.

Charles F. Connelley

Army Advanced Marksmanship Unit rifle and pistol teams are doing a lot of traveling for tournament competition and are doing pretty consistent winning against all-comers, both individuals and teams.

A DEFENSE OF THE SQUIBB BULLET

Alfred K. Friedrich

The articles on cast bullets by Col. E. H. Harrison in the AMERICAN RIFLEMAN were a distinct disappointment to me. They were evidently written for the beginner—the man who has never cast any bullets. The first three articles did not contain any information I did not know fifty years ago. The exception was oiled sawdust for a flux—I have used rosin successfully for fifty years.

The fourth article lists loads that do not agree with the results that I have obtained myself. For bullets using fast burning powders the velocities given are 1300 feet per second. I used to get more velocity with my .32-40 and groups of 3 inches or less at 200 yards.

The Col. passes up the Squibb bullet (Ideal #311413) entirely as being no account. He says that he has never heard of anyone getting good results with this bullet with more than very light loads. I can not understand him when he says that this bullet has a long point. The point is much blunter than the point of the service bullet. Again, he says the forward part is cut away. I put a micrometer just ahead of the front lubricating groove. The diameter at this point is .305″, just 3 thousandths of an inch less than the main body of the bullet.

Now I have some news for the Colonel. I **have** been getting 2″ groups fairly consistently at 110 yards with **ten** shots, not five, with loads of about 1750 feet per second. I have to take the velocity given in the tables as I do not have a chronograph. My pet load was 18 grains of Sharpshooter powder back of the Squibb bullet, and the alloy was 90% lead, 5% tin, 5% antimoney, which is the alloy used by most shooters. Using this load I shot ten points over Expert at 200 yards. I got the Lyman Co. to make me a mold to cast .308. When I cast .311 and sized down to .308 I used to get one flyer in every five shots.

Sharpshooter powder is not made any more. But I have three loads which shoot almost as well: 22 grains of 4227, 20 grains of 4759, and 25 grains of 4198. I have not been able to get Schuetzen accuracy with these loads, but any of them will make smaller groups at 200 yards than I have been able to make with service ammunition.

Load: 22 grains 4227, Squibb bullet, ten shots at 110 yards. Groups: 2.00″, 2.75″, 1.75″, 1.875″, 1.625″, 1.75″, 1.75″, 2.50″, 2.25″ and 1.25″.

Load: 20 grains 4759, Squibb bullet at 110 yards. Ten shot groups: 2.12″, 2.12″, 2.00″ and 2.12″.

Load: 25 grains 4198, Squibb bullet at 110 yards. Ten shot groups: 2.25″, 1.75″, 2.50″, 1.50″, 1.75″, 2.12″, 2.00″, 1.75″, 2.00″ and 3.00″. I think nine good groups should outweigh one bad one. I have made 1″ groups of five shots but I do not think five shot groups are conclusive.

Load: 32 grains 3031, Squibb bullet. Ten shots at 110 yards: 3.00″, 2.50″, 2.50″ and 2.50″. These groups are only fair. I have some 4.25″ groups at 200 yards with this load, but it has one very bad fault—every now and then it fails to seal and the gas blows back. That would completely ruin a rapid fire score. Merrill Martin says I need a 180 grain bullet, but so far I have not been able to get a mold to cast .308.

A careful inspection of the bore of the rifle has never shown any leading. The slower burning powders foul up, however, due to incomplete combustion, and the rifle has to be cleaned after 20 shots. The way to remove metal fouling of any kind is to shoot a metal jacketed bullet through the barrel at low velocity, about 1500 feet per second. That method has removed very bad cases of metal fouling for me. The Colonel is correct in saying that cast bullets will not do well if there is metal fouling in the barrel, but I do not agree about temperature. My barrel will not group until I shoot a few shots through it to warm it up.

I have not been able to get good results with the 210 grain bullet. All groups were larger than the groups obtained with the Squibb bullet.

Martin reports 1 inch groups at 100 yards with the Pope bullet, and **no** leading when he uses a grease wad. Results without the grease wad were poor. His load is 20 grains 4759, and he says you have to use a soft bullet—one part tin to 40 to 60 parts lead. Harder bullets would not group well. He catches his bullets in cotton and reports **no** deformation and no stripping of the bullet when the bullet is not harder than 1 to 40.

Testing in this climate (Oakland, Calif.) is quite difficult. There is usually a haze in the atmosphere. Haze means mirage. We may get one or two days a month when the air is clear, and then it is windy. 200 yard groups are very difficult to get under these circumstances.

In seating bullets my best results have been when seating the bullets out far enough to just touch the rifling. When the rifling left a distinct mark on the bullet results were not so good.

PENNSYLVANIA GALLERY TOURNAMENT

The 21st annual tournament of the Ohio-Penna. Rifle League at New Castle, Pa., March 22-23 had 128 shooters competing in the senior matches and 43 juniors firing the junior match only.

William Funk, Murrysville, Pa., won the four-position any sight match with 396-26 over Barry Trew, Bentleyville, Pa., with 396-23. George McCreight, Burgettstown, Pa., a junior shooter competing in the senior matches, was third with 394-20 over Robt. Boden, Bobtown, Pa., with 394-14.

Barry Trew won the tough 20 shots offhand match with 196-10 and Robert K. Moore, Claysville, Pa. with 194-6 ranked Wm. Funk with 194-5 to take runner-up spot.

Wm. C. Roos, Sharon, Pa., another junior shooter matching his skill successfully against the seniors, won the four position metallic sight match with 393-22. Barry Trew took runner-up spot with 391-19.

Frazier-Simplex of Washington, Pa. won the five-man team match with 1957, eleven points up on runner-up Waynesburg, Pa.

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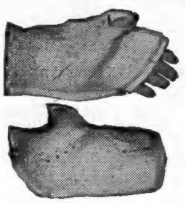

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BELLOWS MICROMETER BULLET SEATER

I have been using a hand bullet seater made by Bellows & Son, Wilcox, Pa., with their new Micrometer adjustment, in my loading of the .222 Rem. cartridge for the past month and am convinced that it is a very practical, worthwhile item for the accuracy reloader who may be using several bullets in his loads.

In loading several different bullets, with different nose shapes and ogives, different over-all cartridge lengths are required in order to get the best seating depth for each bullet. The important worth of the Bellows Micrometer Bullet Seater is that once the best seating depth for a particular bullet, in a particular barrel, is found, the micrometer reading can be recorded and that seating depth returned to, exactly, at a later date.

The 'land contact' seating depth for any bullet may, of course, be found by trial in a particular barrel, and recorded. Then, by range trial of various bullet seatings in exact five thousandth stages, the seating depth that gives the best accuracy in that particular barrel may be determined, recorded, and after changing the bullet seating die for using other bullets, that best seating depth may be returned to, exactly, at some later date, when it is desired to use that bullet again. Thus, the Bellows Micrometer Bullet Seater is a time, component and patience saver.

Both the hand seating dies, favored by many shooters, and 7/8" X 14 dies for loading presses may be obtained with the micrometer bullet seaters, in all calibers, from Bellows & Son, Wilcox, Pa. The cost of $14.75 is modest when the satisfaction and time saving is considered.

PHT

EARLY BENCH REST SHOOTS

AT WICHITA, KANSAS

Thirteen shot heavy rifle at Wichita, April 13th, with NBRSA Vice President H. W. Barton taking all the top spots. He made a NMC aggregate of .485 minute of angle, with .440 at 100 yds. and .529 at 200 yds. He also fired small groups of .318" at 100 yds. and .600" at 200 yds. He shot the .222 case in Douglas barrel on Rem. 722 action, his own gunsmithing, with B&L 6-24 scope. His load was 23.9 grs. Ball powder with W. M. Brown bullets and Rem. primers.

H. G. Baucher, Kansas City, Kans., shooting a .219 Don in Douglas barrel on Enfield action, gunsmithed by himself, with 24X Unertl scope, with 27.5 grs. Ball powder, Carden B&A bullets and Rem. primer, was second in the NMC agg. with .535, and second at 200 yds. with .540 m.o.a.

A. C. Ray, Wichita, was third in the NMC agg. with .564 and third at 100 yds. with .493, shooting the .219 Don in Douglas barrel on Mauser action, Lyman 20X scope and load of 27.8 grs. Ball powder with Neumann bullets and Federal primers.

C. L. Neumann, Tulsa, Okla., was second at 100 yds. with .491 agg., shooting a .222 Rem. in Hart barrel on F. N. action, Unertl 24X scope, and load of 24 grs. 4895, his own B&A bullets and Rem. primers.

Weather was cloudy with heavy mirage and wind at 10-15 m.p.h.

AT SOUTHBORO, MASS.

Thirteen shot five 5-shot matches and five 10-shot matches at 100 yds. in a non-registered shoot at Southboro, Mass., April 20th. Weather was a comfortable temperature, good light, but a gusty wind that gave some trouble to all at one time or another during the day.

John E. Warren from Cape Cod, who does the beautiful engraving on guns, won the ten match grand aggregate with a .532" average. He shot a .219 Don in Hart barrel on Mauser action, Lyman 20X scope, with load of 26 grs. 3031, Hollidge bullets and Federal primers.

Bob Stinehour, Newburgh, N. Y., shooting a .219 Don in Hart barrel on Rem. 722 action, with Unertl 20X scope, with his own bullets made in B&A dies and 3031 powder, was second grand agg. with .546" average. Crawford H. Hollidge, Cape Cod, was third in the grand with .566" average, and shot both smallest 5-shot group (.240") and smallest 10-shot group (.400").

Two did not enter the cash pool in any of the matches and one did not enter the prize pool in the 10-shot matches. All fired groups that would have won or placed in the prize money, but none of them would have won more than a dollar over what their cash pool entry fees would have amounted to.

The little shoots are not 'money makers' for even the top competitors (John Warren perhaps won his out of pocket expense for a pleasant day's shooting) but they are good fun, with keen competition. With the small number of shooters, everyone may visit with everyone else, making the finest opportunity for new shooters to break into the rest shooting game and 'learning the ropes.'

BENCH REST MATCHES

EASTERN REGION

SOUTHBORO, MASS.: May 25, June 29, Aug. 17 (registered shoots), Oct. 12 (not registered); Southboro Gun Club, J. W. Baldwin, 5 Milk St., Westboro, Mass.

STAUNTON, VIRGINIA: July 26-27, Oct. 4-5 (registered shoots); Stonewall Rifle & Pistol Club, J. W. Perry; 409 Du Pont Ave., Staunton, Va.

PLAINFIELD, NEW HAMPSHIRE: May 18, July 20, Sept. 14 (registered shoots); Plainfield Rifle Club, Leslie R. Stone, Sec., Plainfield, N. H.

AUGUSTA, OHIO: May 17-18, June 14-15, July 19 (night), Aug. 2 (night), Aug. 30-31 (all registered shoots); Reeds Run Rifle Range, P. O. Box 66, Augusta, Ohio.

DUBOIS, PA.: Memorial Day weekend (registered); DuBois Rifle & Pistol Club, Inc., P. O. Box 207, DuBois, Pa.

WILKES-BARRE, PA.: June 7-8, Aug. 2-3 (registered); Wilkes-Barre Rifle & Pistol Club, William C. Deets, Sec., Pole 141, Harvey's Lake, Pa.

LEWISTOWN, PA.: June 21-22 (Pa. State Champ.), July 5-6 (Eastern Region Championship) (registered shoots); East End Blue Rock & Sportsmen's Club, P. J. Aurand, Milroy, Pa.

EASTON, OHIO: June 29, Aug. 17 (registered shoots); Chippewa Rifle Club, Donald Snyder, Sec., 260 Clinton St., Doylestown, Ohio.

ALTOONA, PA.: July 13 (Eastern Region Varmint Rifle Championship), Aug. 10 (registered shoots); Altoona Rifle & Pistol Club, John Kaylor, 709 4th Ave., Juniata, Altoona, Pa.

JOHNSTOWN, N. Y.: Labor Day weekend (registered); Pine Tree Rifle Club, Inc., Wm. N. Hare, Sec., 49 Woodside Ave., Gloversville, N. Y.

TERRE HAUTE, IND.: July 26-27, Sept. 20-21 (Invitational registered); Locust Grove Rifle Range, F. S. Yenowine, 1401 North 13th St., Terre Haute, Ind.

WINDSOR, ILL.: June 22, July 13, Sept. 7; Windsor Rod & Gun Club, Inc., Windsor, Ill.

GREENUP, ILL.: June 29, Aug. 17 (varmint—not registered), Sept. 13-14 (Illinois State Championship); Cumberland County Sportsman Club, Inc.; Herschel E. Owen, Casey, Ill.

MID-CONTINENT REGION

ST. LOUIS, MISSOURI: June 15, Sept. 14 (registered); Bench Rest Rifle Club of St. Louis, James R. Ernst, Sec., 2230 Ferncliff, Kirkwood 22, Mo.

TULSA, OKLAHOMA: May 17, June 21, July 19 (night); Aug. 9 (night), Sept. 6 (all registered shoots), **September 26-27-28 NATIONAL CHAMPIONSHIP SHOOT;** Tulsa Bench Rest Rifle Club, R. G. Berry, Sec., Pawnee, Oklahoma.

WICHITA, KANSAS: June 8, July 4-5-6 (Kansas State and Regional Championships—nights), Aug. 2 (night), Aug. 30-31 (nights), Oct. 5 (all registered shoots); Wichita Bench Rest Rifle Club, Dale Apperson, Sec., 935 No. Doris, Wichita, Kansas.

NORTH CENTRAL REGION:

BUFFALO, WYOMING: May 24-25, July 12-13 (nights); Buffalo Outdoor Rifle Club, C. C. Hankins, Sec., P. O. Box 151, Buffalo, Wyoming.

CUSTER, SO. DAKOTA: May 18 (chuck shoot), June 7-8, June 29, Aug. 16-17; Black Hills Bench Rest Rifle Ass'n, c/o Walt Siewert, Custer, So. Dak.

GULF COAST REGION

CORPUS CHRISTI TEXAS: Aug. 31 (registered shoots); Cleman B. Brown, 602 Sorrell St., Corpus Christi, Texas.

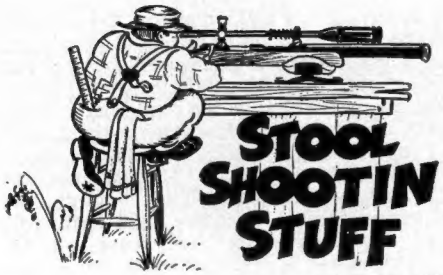
SAN ANGELO, TEXAS: May 31-June 1 (Texas State Shoot—registered); F. L. Magoon, P. O. Box 909, Kerrville, Texas.

SOUTHWEST REGION:

YREKA, CALIFORNIA: June 7-8, July 19-20, Aug. 30-31 (not registered—Open and Varmint rifles); Yreka Rifle Club, Ray E. Jones, 508 Knapp St., Yreka, Calif.

ANNUAL MEMORIAL DAY WEEK-END BENCH REST SHOOT AT DUBOIS, PENNSYLVANIA

Friday, May 30, 1958 at 3:00 P. M.—3 ten shot matches at 300 meters
Saturday, May 31, 1958—5 ten shot matches at 200 yards
Sunday, June 1, 1958—5 ten shot matches at 100 yards
DuBois Rifle & Pistol Club, Inc., P. O. Box 207, DuBois, Pa.



April 22, 1958

Dear Phil:

It was good to see you and Henry Butterfield and some of the other Directors at the Annual Meeting at Bennington last Saturday. I think we made real progress in some of the decisions at which we arrived and it is clear from the action of recent months that we are eliminating some of the errors of the past. Now that we are rid of the loadstone of delivering a lot of issues to subscribers, dating back to Shooters News days, which had to be assumed as a liability because of the Court Order when the new magazine was started, we should proceed unfettered by old responsibilities. The subscribers which we now have are our tried and true friends, plus the new ones we have made. The advertisers are undoubtedly aware that they are reaching a quality market of shooters who think carefully before they buy.

I remember at Saturday's meeting that you mentioned the next issue would be a little crowded so I shall not make this letter as long as normally.

Crawf Hollidge had a little shoot down at his range for local boys and nearby bench rest shooters who were interested in varmint matches, and although the day was a little cold and blustery, a good time was had by all. The rifles were truly of the varmint class and in order to conform with the equipment generally in the area, no scopes were allowed greater than 12 power. John Warren, shooting a .22-250, placed in five out of the six matches and certainly indicated that that cartridge is a good one for a rather gusty day. His rifle is a beautiful one that he has just made up for himself and makes one drool to look at it. The 6 m/m showed up very well too and with good bullets it is clear to see that that caliber is going to account for a lot of varmints.

I look forward to a good group of competitors at the Eastern Region Varmint Rifle matches at Altoona this year, and I certainly hope that at those matches there will not be some of the complicated rules that existed last year; for instance, in some of the matches, it was required that a rifle have a functioning magazine. Certainly such an appendage is not essential to a good varmint rifle and the rule merely blocks out fellows who have done a lot of varmint shooting and made their rifles more accurate and practical by eliminating the magazine.

As you recall, Phil, I left Bennington to attend the Southboro (Mass.) shoot the following morning. There was a good crowd there and it was a mighty interesting informal shoot, which clearly indicated that the boys are going into the new season with enthusiasm and confidence. Again the weather was a little gusty with threatening showers and frequent light changes so that the groups made were not on the small side. Actually a 6 m/m would have come in handy on many occasions on that day.

As I write this, I am thinking of the things I must do before getting off to Staunton (Va.). That is a shoot that I always look forward to with a great deal of pleasure. It really seems to open the season officially, and the drive down to that area becomes progressively more beautiful and Spring asserts itself. To meet and shake hands with the fellows we have not seen for some months is as heart warming as the hospitality extended by the boys from the area who run the shoot.

Phil, every once in a while I receive letters about things that I say in the column which indicates to me that some people do read it; for instance, one of my friends thinks I am a little harsh on the fellows who make or use glass bedding compounds and I guess he has a good point because, as he says, many fellows do use it with considerable success. I must consider, too, that bench rest really is only a small portion of rifle shooting and that the fellows who stock rifles as a whole are neither as experienced nor as meticulous as the bench rest shooter must be if he is to be competitive. I conceded that there are a lot of stocking jobs glass bedding will improve.

On this line, I recently complained of some of the factory jobs that come through, and I received an interesting comment from a fellow who said he had remarkably good luck with some recent factory rifles he had tested. I just happened to have not run into many factory rifles which were stocked well enough to satisfy me, but on the whole, my experience has been that nothing equals a very careful testing of a rifle, and then making some minor improvements which will considerably increase the accuracy.

I shall look forward to seeing you at the Plainfield (N. H.) shoot and perhaps at that time we'll be seeing some of the small groups that are characteristic of the matches at that range. I am sure that that lovely expanse of thick green turf is envied by many of the other ranges throughout the country. The shelter of the surrounding hills is as characteristic of Vermont as its maple sugar.

Cordially yours,

Ernest Stuhlbacher

NEW RULE BOOKS AVAILABLE

A new printing of NBRSA rule books is available at 25¢ per copy to cover printing and mailing costs. There are only minor changes in the rules but the new books have all the group and aggregate records for the beginning of the 1958 season, with spaces for keeping the records up-to-date as new records may be officially announced in Precision SHOOTING. Get a rule book, become familiar with the rules and avoid making mistakes that may hurt you at shoots.

If both competitors and match sponsors know what the records are, and keep them up-to-date, possible new records will not be overlooked and recognition for them lost. Possible new records have been miffed in the past just for this reason.

Official NBRSA targets are also available from headquarters at Lyndonville, Vt. Use official targets for your practice and test shooting and get clean cutting bullet prints for accurate measurement of groups, as well as keeping familiar with targets used at shoots.

Past NBRSA president Ed McNally entered a Syracuse, N. Y. hospital the week of May 5th for surgery of bladder.

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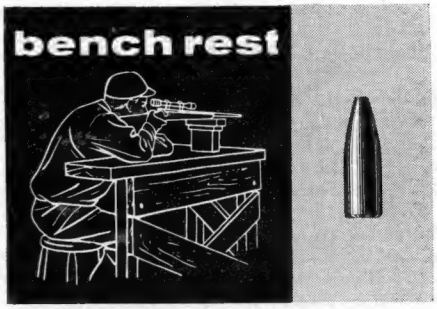
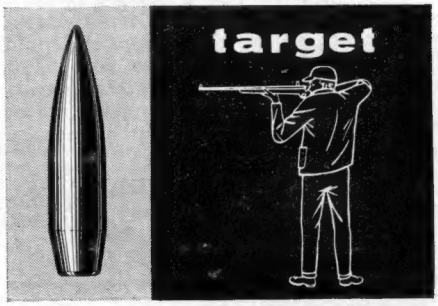


.22 CALIBER, .224 Diameter Bench Rest 53 grain Hollow Point. The most accurate and precisely manufactured .22 Caliber Bench Rest Bullet.



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THE INFORMATION BENCH

The Information Bench service is available to all Precision SHOOTING readers. With your questions, send a large, stamped, self addressed return envelope for a reply. Selected questions and answers, covering as wide a variety of interests as possible, will be published in these columns. Address your questions to the following people.

Bench rest, varmint and hunting rifles, accessories, handloading, components and shooting methods—**M. H. Walker, THE INFORMATION BENCH, RFD #1, Box 118, Mohawk, N. Y.**

NRA and Free target rifles and shooting—**Roy F. Dunlap, 2319 Ft. Lowell Rd., Tucson, Arizona.**

Sporting handguns and loading—**Kent Bellah, Saint Jo, Texas.**

British arms and shooting—**John C. J. Knott, 2226 North Euclid Ave., Tucson, Arizona.**

Questions: Is the .280 Rem. a true 7 m/m? Can one use 7 m/m .284 bullets in it? Your friend Mr. Page said in his shooting questions in Field & Stream that one can get extra length at the back end of the 722 Rem. magazine. What length can you get? What work do you have to do? As I am a 6 m/m nut I am going to put a 10 inch twist barrel on a 722 action. I want the extra length so I don't have to seat the 100 gr. bullet so deep. Alwin Hofmann, Kansas

Answers: The .280 Remington is a true 7 m/m. Any 7 m/m bullet with a diameter of .283 to .284 may be used. Just take it easy with the powder charges until you know what you are doing. To obtain additional length in the M/722 magazine would be difficult although I suppose one could dispense with the center guard screw and mill out the back of the magazine opening in the bottom of the receiver. You could probably gain about .150 inch. How much better do the long seated rounds shoot than the short seated ones? M. H. Walker

Question: Enclosed is a case fired in my Win. M70 converted to .222 from a Hornet by G & H. The factory bullet had been pulled and 21 grs. of 4198 and a Sisk 50 gr. substituted after neck sizing, using the original primer. A nice split resulted although I noticed no signs of excessive pressure on firing the twenty rounds. On checking the cases I discovered that all the flash holes are too large according to a set of "go—no go" Herter gauges I use. The Norma cases I usually use have never given any trouble and I would like to know if these Remington cases should be used for handloading. Is an oversize flash hole a dangerous condition? Why do you suppose the case split on first firing after only one working? Joseph E. Coachman, New Jersey

Answers: You are apparently having the same difficulty as several other correspondents. Split necks on the second or third firing of relatively new brass is usually caused by excessive cold working of the neck in sizing. The sizing die should not reduce the neck more than is required to uniformly hold the bullet. This means in your case that a diameter of about .244 to .245 inch on the outside of the sized portion of the neck would be sufficient. This is measured before the sizing plug goes through the neck, so it will mean removing the sizing plug from your die in order to obtain a sized case for measurement. The size of the flash hole is not necessarily standardized at .080 or what ever. The ammunition maker is free to use any size that will give the best results. Your cases are O. K. if the flash holes are all the same size. M. H. Walker

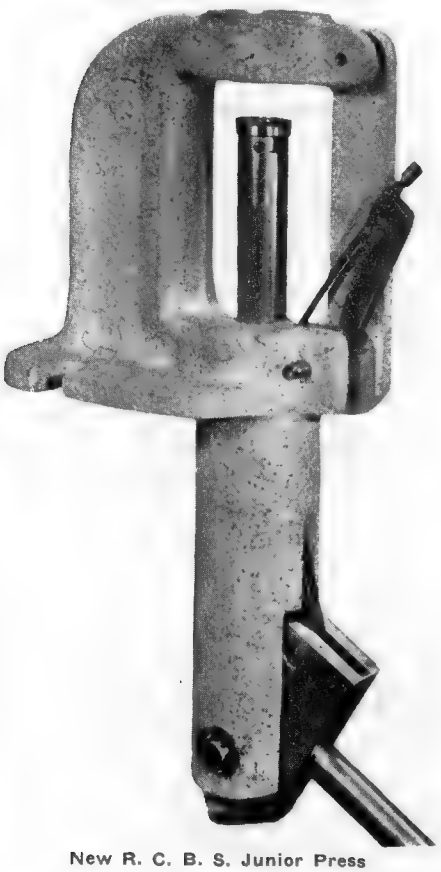
Questions: How much difference of accuracy, in general, do you find in temperature effect, with .22 long rifle, say, between 40 and 60 degrees and between 60 and 90 degrees? Once in a while I get a ten shot group close to 1 minute at 100 yds., but most are stringing in all directions. Do you know of any way .22 long rifle can be made to shoot under 1 inch average at 100 yds.? I do all my shooting from bench and that's the only way I'm going to shoot, unless some offhand. How come the 40X won't shoot full floating? Roland Davison, Wash.

Answers: Generally the .22 rimfires do not shoot as well in cold dry weather as in warm moist weather. The amount of difference would depend on the conditions etc., probably 15% to 20% between a 30 degree winter day and an 80 degree summer day. Most of the top grade match rifles available today should average close to 1" with the ammunition which shoots best in each rifle. Some will average better than 1". Those that do are generally classified as select. If you are a rifle tuning expert you can generally make any 22 rimfire match rifle shoot 10X possibles under the best conditions. This would require an average group size of 1.2" or better. The barrel is not always at fault. In fact the ignition and the bedding are at fault more often than the barrel. Mr. Hallberg gave us some good dope on ignition in one of the issues of Precision Shooting when he said that velocity was dependent on the energy of the firing pin blow. The rimfires are even more sensitive to this than the centerfires. Your 40X will shoot free floating provided the rifle is in good shape and you are using ammunition suited to it. M. H. Walker

Questions: I am now having my first bench rest rifle made up by Mr. Clyde Hart using the 722 action in caliber .222 Rem. The gun will be in the varmint class and as we have little or no bench rest competition this far north it will probably be used more for crow shooting for the time being than for target work. With this in mind would it be better for me to use a scope with a fine cross hair than a dot, which I understand most bench rest shooters use? My barrel will of course be stainless steel and I would appreciate your suggestions as to type of cleaning rod to use, type of brush if any, solvent, etc. as well as how often you recommend cleaning. Also notice that many shooters make their own bullets. Is this process highly complex or can it be mastered in time by most anyone with average mechanical ability? Do you recommend bullets of the same diameter as the groove diameter of the barrel or slightly smaller or is this a matter of trial and error? Robert A. Cernek, Mich.

Answers: It would be desirable to have access to both the dot reticule and the cross hair. Either will do, it's a matter of preference. I use maple dowel for cleaning rods as well as a steel rod with a wire brush. Hoppe's No. 9 with Hoppe's patches seems to predominate on the firing line. You will have to work out the frequency of cleaning yourself, as

no two combinations are exactly alike. Most of my rifles need cleaning after each match (about 15 rounds). Bullet making is not difficult. Write Ray Biehler, 1597 Ridge Road West, Rochester, N. Y. or Fred Huntington, 730 Bird St., Oroville, Calif. The bullet diameter—groove diameter relationship is not as important as some shooters would have us believe. In general the two diameters should be within .0003" of each other. A lot depends on the shape of the bullet and the jacket hardness. Large soft-jacketed bullets do not ordinarily shoot well in small groove diameter barrels. M. H. Walker

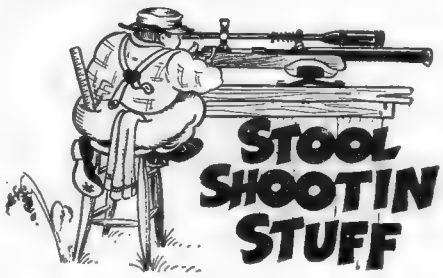


New R. C. B. S. Junior Press

THE R. C. B. S. JUNIOR PRESS

Twice each year I have been shipping my loading tools between my summer and winter homes. This is a big bother and a heavy expense for express, so last fall I left my old press in Vermont, and have acquired one of the new R. C. B. S. Junior Presses for my handloading at my St. Louis home. I am by no means familiar with all the various presses on the market, but this one is of top grade workmanship and design, and is far superior to all others that I have tried. It is a small press, even smaller than the illustration seems to show, but it is extremely sturdy, rigid and strong. In fact I think it is equal in these respects to the larger R. C. B. S. Model A press which is supposed to be the strongest and most rigid made. I do not see how even making of the larger caliber bullets could possibly spring it materially out of alignment. The alignment of the dies with the shell holder is just perfect. Every operation, even full length resizing, is performed with the greatest ease and accuracy. It is a straight line press, but it is so designed that it is as easy to handle components through it with the fingers as with any "C" type press. The priming arm has a flat spring permanently attached to it, a very

(Continued on Page Twelve)



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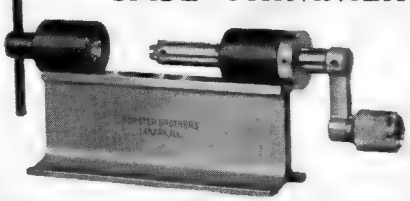

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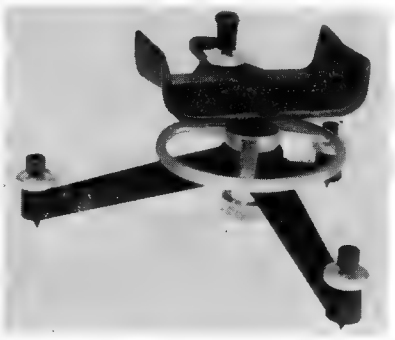

The new 1957 National B. R. Champion Harold Hale used a Beecher Rifle Rest. The original light weight tripod rest. Eight years in use coast to coast and abroad. Super Model still $22.50. New Custom Model illustrated $27.75. "Apache Jack" Wheel fits all older models $4.75. All Postpaid and insured in U. S. A. No C. O. D.'s.
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A letter sent to the PRECISION RIFLE CO., 29 Stanhope St., Boston, Mass., by certified mail, has been returned, unclaimed. The letter was mailed because of some complaints we had received about this company.

With added space to be available for use in the future, we can use more pictures, if we get them.

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BY ROTHSCHILD

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The R. C. B. S. Junior Press

(Continued from Page Eleven)

great improvement because I for one was continually losing the little coil springs of other presses or dropping them on the floor. The head of the shell holder is easily detachable by simply unscrewing a screw and different sized heads can be interchanged in less than a minute.

The old primers do not drop into the crevice between the priming arm and the frame, but just trinkle down into a box I place below on the floor. The lever can be set to operate either on the down or up stroke as desired. I use my press on a sturdy bench and prefer it to operate on the up-stroke. The trouble with all down stroke tools is that the weight of the operating lever closes the tool as soon as you take your hands off it, the shell holder raising to its full extent. Then just when you are ready to put a case or a bullet into the press you find it closed and have to pull up on the arm before you can insert the work. With the upstroke the press is always open ready to insert the work without delay. Altogether I am perfectly delighted with this fine little new loading press. It uses the regular ⅞" X 14 dies, of course.

Townsend Whelen

STEEL WOOL

By Frank de Haas

One of the most useful products for the amateur and professional gunsmith is steel wool. The home gunsmith, gun tinkerer, reloader and shooter will find many and varied uses for it, from cleaning guns, inside and out, removing lead, light rust, polishing cartridge cases, and it will be helpful in blueing and stock finishing operations. After using it for many a different job, it will be found that a box or two of fine steel wool becomes a 'must' to have in the shop.

The principal use for steel wool is for cleaning, and for firearms it is tops. Grim, dirt, old grease, blood, etc. are easily and quickly removed from the outside of any gun by using a small wad of steel wool that has been lubricated with a few drops of light oil. The steel wool will 'grab hold' anything that is not steel and after a rub down over the metal parts, the gun will really be 'new-clean.'

Those who have never used steel wool on the metal parts of a gun may wonder if it will spoil the finish or wear down the blueing. Well, rest assured that it will not, even if rubbed long and often. Most generally it will improve and enhance the finish by getting it thoroughly clean. However, only fine steel wool should be used, and on the alloy parts of many of the newer guns it should be used with care.

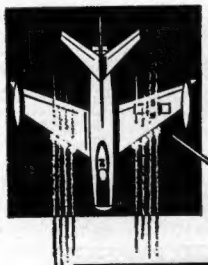
For really cleaning the inside of shotgun barrels, and especially for removing leading from the bores, steel wool has every other product and method beat that I know of, and it will do it fast and safely. A wad of fine steel wool wrapped around an old shotgun brass cleaning brush, plus a few drops of light oil, will remove all traces of lead in short order by pulling it back and forth through the bore a few times. The steel wool will stick to the brush and enough should be put on to make it a tight fit. After the bore is cleaned, a bit more steel wool can be added and the chamber cleaned out. It will quickly remove the little pieces of paper that have a tendency to collect at the end of the chamber and at the start of the forcing cone.

Rifle and handgun barrels may also be cleaned thoroughly with steel wool and it is especially good to clean out the lead from large caliber revolver barrels. Wrap a bit around a worn brass brush or other cleaning tip (if it will hold a cloth patch it will also hold steel wool), add a few drops of oil and go to it. When the barrel is done, it takes only a minute or so, add a little more wool and clean out the chambers and throats. When finished, blow off the loose particles of steel wool and wipe with a clean cloth.

While guns may be cleaned in other ways without the use of steel wool, there is nothing though that will remove light rust like steel wool, and it is the **only way** to safely and quickly remove light rust from the blued surface of gun steel without scratching or in any way spoiling the remaining finish. Often guns become rusty from being in a dampened cloth or leather case too long, and a dab of oiled steel wool will peel off that rust pronto.

For the home gunsmith who uses one of the several fine cold blues now on the market, steel wool will be a great aid

(Continued on Page Fourteen)



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SMALL RIFLE

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218 Bee	200
22 Hornet	200
222 Remington	200
25-20 Winchester	200
32 Winchester Self-Loading	200
32-20 Winchester	200
35 Winchester Self-Loading	200
351 Winchester Self-Loading	200

LARGE PISTOL

Cartridge	Primer No.
38-40 Winchester	150
44 Smith & Wesson Russian	150
44 Smith & Wesson Special	150
44-40 Winchester	150
45 Colt	150
45 Automatic	150

LARGE RIFLE

Cartridge	Primer No.
219 Zipper	210
22 Savage	210
220 Swift	210
243 Winchester (6 m/m)	210
25 Remington	210
25-35 Winchester	210
250 Savage	210
257 Roberts	210
270 Winchester	210
7 m/m Mauser (7x57)	210
30-30 Winchester	210
30 Remington	210
30-06 Springfield	210
30-40 Krag	210
300 H & H Magnum	210
300 Savage	210
303 Savage	210
303 British	210
308 Winchester	210
32 Winchester Special	210
8 m/m (7.9 m/m) Mauser	210
8 m/m Lebel	210
32 Remington	210
32-40 Winchester	210
33 Winchester	210
8 m/m Mannlicher-Schoenauer (8x50)	210
8 m/m Mauser (8x57; or 7.9)	210
348 Winchester	210
35 Remington	210
358 Winchester (8.8 m/m)	210
375 H & H Magnum	210
38-55 Winchester	210
401 Winchester Self-Loading	210
405 Winchester	210
45-70 Government	210

SMALL PISTOL

Cartridge	Primer No.
25 Automatic	100
25 (6.35 m/m) Auto. Pistol	100
7.62 Mauser (7.63 m/m)	100
30 Luger (7.65 m/m)	100
32 Automatic	100
32 Smith & Wesson	100
32 Colt	100
32 (7.65 m/m) Auto. Pistol	100
357 Magnum	100
9 m/m Luger (Parabellum)	100
38 Smith & Wesson	100
38 Special	100
38 Special Super-X	100
38 Special Super-Match	100
38 Short Colt	100
38 Long Colt	100
38 Colt New Police	100
38 Automatic	100
380 Automatic	100
41 Long Colt	100

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1. National Bench Rest Championship, Du Bois, Pa., 1957, Harold Hale.
2. National Small Bore Championship, Camp Perry, Ohio, 1957, John Moschkau.
3. 300 Meter Aggregate score, Du Bois, Pa., 1957, Don Robbins.
4. First and Second places, 300 meters, Du Bois, Pa., 1957, Clair Taylor and Don Robbins.
5. National Match Course, Du Bois, Pa., 1957, 1st, 3rd, 6th, 7th places.
6. National Match 10-shot 100 yd. aggregate, Augusta, O. Al Creighton, .3105".
7. National Bench Rest Championship, Johnstown, New York, 1955, Sam Clark, Jr.
8. 10 Shot 200 yard WORLD RECORD, Du Bois, Pa., 1954, Sam Clark, Jr. Score, or Group, .5276"
9. 10 Shot 200 yard WORLD RECORD, Du Bois, Pa., 1956, H. L. Culver (Present record) Group size .4016"
10. 1000 Yard, Famous Wimbledon match, any sight, 1955, Camp Perry, O. Frank Conway.
11. 1000 Yard, Famous Wimbledon match, any sight, 1956, Camp Perry, O. Frank Conway.*
12. Newest National Match Course winner, Wichita, Kans., Sept. 28, 1957, H. W. Barton, official new record, .3729" M. A. average.

* First two-time winner in 57 years.

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All of the above barrels were barrels regularly used by the above shooters in setting these marks. They were not selected in advance by firing tests. All were regular PRODUCTION MADE BARRELS.

I submit the above as attesting to the fact that the ULTRARIFLED "button rifled" barrel is the finest PRODUCTION MADE barrel obtainable today, anywhere. Day after day, these barrels insure the attainment of finest accuracy for the customer, the least trouble, and the most profit for the dealer-gunsmith. In addition I feel that our trade policies, discounts, deliveries, prices, and our constant assurance of a high level of performance from all our barrels, large or small, provides an overall service not matched by any other Barrelmaker in the land.

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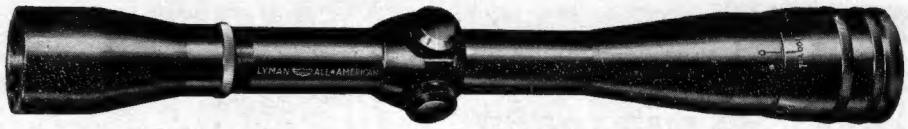

New Lyman All-American scopes are now available in 10 power and 8 power for long range varmint and big game hunters. Both scopes have focusing adjustment for ranges from 50 yds. to infinity, 1/3 minute click adjustments for windage and elevation and 3¼ inch eye relief. The 10X scope has a 14 feet field of view at 100 yards and the 8X a field of 16 feet.

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Molybdenum disulphide, powdered mica
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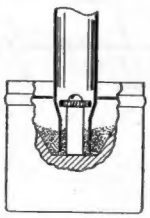

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All are now available in the "SURE-MARK" CASE LUBRICATOR—The simple, easily operated tool that applies just right amount of dry lubricant for case neck resizing without mess or bother. Complete unit for all calibers from .22 to .45 with graphite or powdered mica $1.00 postpaid; moly, disulphide $1.25.

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Steel Wool

(Continued from Page Twelve)

in securing a good blue job that these chemicals are capable of doing. For simple retouching the worn portions of a gun, first clean the part with a wad of steel wool that has been saturated in a cleaning fluid like carbon tech. If the entire gun is to be blued then the entire surface must be polished and cleaned before applying the cold blue. I have found that instead of applying the blue with a cotton swab or cloth, a wad of steel wool that has first been cleaned of oil in carbon tech, will work better. Directions usually state that after each coat has dried for the required time, that it be rubbed down with fine steel wool before adding another application. When finished, the blued surfaces can be given added sheen with a light rubbing with fine steel wool and oil.

The professional gun bluer will also find steel wool handy to have around his hot tank of salts or even the slow rust process. While blueing, some portions or parts may not 'take' color as it should, then a brisk rub with clean steel wool in the rinse tank will most likely make it 'take.' Also the salts may become too hot and then some of the parts may become coated with a red scum or rust and this is easily removed with the steel wool in the rinse tank. Even if everything goes fine, after blueing, rinsing and oiling, the blued surfaces often lack the sheen desired. This may be due to dirty rinse water or old and dirty salts, but a good rubbing with steel wool and light oil will remove the microscopic thin scum.

Reloaders will find steel wool useful for cleaning brass cartridge cases, especially the inside of the necks, for this is a highly recommended procedure for the finest accuracy in bench rest shooting. A little steel wool on a jagged or split rod revolved inside the neck will do the job. The outside of the cases often become greasy, dirty, tarnished and smoke blackened, and dry steel wool will make them like new. This takes a little time if it is to be done by hand, say a half a minute per case, but even if there are several hundred cases, the time it takes to clean them is worth while. Bright clean cases extract much easier and are less wearing on the reloading dies. On this job it is a good idea to wear light leather gloves to protect the hands from steel slivers.

In connection with cleaning brass, steel wool will clean and brighten up the brass fittings on old muzzle loading rifles and shotguns. Powder horns and copper flasks, too, take kindly to a fine steel wool treatment.

Aside from metal, another use for steel wool is in stock finishing. The dewhiskering operation can be done advantageously with steel wool, as it will cut off and remove the whiskers of raised grain, while sandpaper has a tendency to push them back down before entirely removing them. In very porous wood, a paste filler is often used to fill the open grain quickly, and steel wool is the best way to remove the excess filler after it

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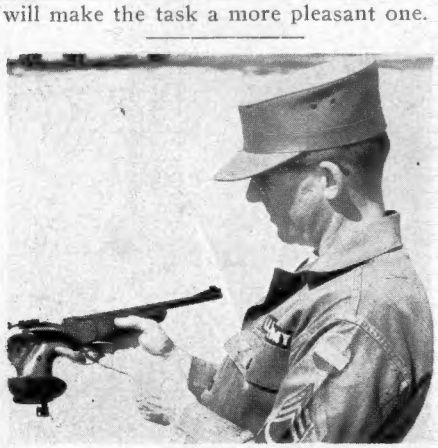
FOR SALE: Taylor & Robbins .219 Don, solid FN Hooded action DST, Gregoire barrel, laminated stock. Good. Price $180.00. Winchester Mod. 70, .22-250, solid custom stock no magazine cut, Buhlmiller barrel, Canjar set trigger. tournament at Belfast, Mrach 16th, to win scope, ¼" Lee dot. Price $90.00. Jack H. Snyder, 59 Ross St., Williamsport, Pa.

For Sale: Taylor & Robbins 219 Wasp, Hart Stainless BBL, sleeve on bbl. Complete, with fifty cases. B & A swages core forming, core seater, 2242 bullet swage, for this gun. 2 rams and ram holder for Super Pacific tool. Fired 1175 rounds. Perfect condition. $375.00 for complete outfit F. O. B. here. Geo. Howard, Lanham, Md. Box 103.

FOR SALE: 219 Wasp bench rifle, Schultz-Larson action, barreled by Taylor & Robbins. Owen laminated 25 ply bench rest stock. $100.00. Owen Laminated Gun stocks, Watkins Glen, N. Y.

has dried. In less porous woods, most stock finishers do not use a separate filler as such, rather they use a varnish as the filler, or if one of the modern fast drying oil finishes is to be used, use it for the filler. Rub or brush on the first coat, preferably rubbed with the fingers, let it dry, and then completely remove the entire finish to the bare wood with steel wool. Repeat until the pores are filled and level with the surface before applying the finishing coats. From here on do not use steel wool, but rather use fine wet or dry garnet paper over a rubber block to keep the finish coats even and level.

Even if you are not one who works on guns, just owning them and shooting them automatically puts you in the position where you must clean and care for them, if they are to retain their value and looks. The occasional use of steel wool will make the task a more pleasant one.



U. S. Army photo
M/Sgt. Roy L. Sutherland, assigned to the Army's Advanced Marksmanship Unit at Fort Benning, shows the "free" pistol which he will use in the U. S. International Team Tryouts. The grip is shaped to an exact fit for the shooter's hand to aid in uniform hold, minimum strain and maximum control of the trigger, which may be disengaged by a breath.

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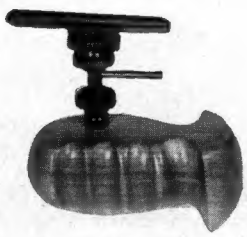

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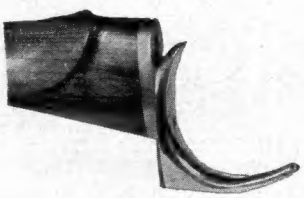

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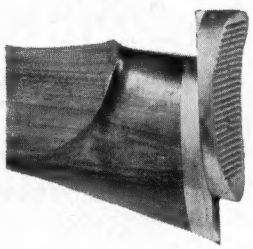

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This can be *your* year for top scores and shooting pleasure! Add to your own skill the extra accuracy you get from the BALvar 24 and enjoy the results. BALvar 24, with exclusive B&L tapered cross-hair reticle, offers a choice of power from 6× to 24× with no change in focus, eye point or reticle size. You can adjust power to mirage conditions or changing light instantly, keeping target bright and sharp. Unique mount, praised by bench rest shooters, has direct reading windage and elevation dials with quarter minute click adjustments. Fogproof BALvar 24 carries the famous B&L lifetime guarantee.

The Incomparable BALvar 24

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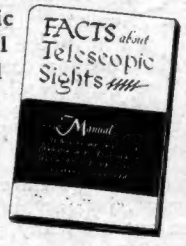
Magnification	6×	12×	24×
Entrance Pupil	38mm	38mm	38mm
Exit Pupil	6.3mm	3.2mm	1.6mm
Relative Brightness	40	10	2.5
Real Field (at 100 yds.)	18 ft.	9 ft.	4.5 ft.
Eye Distance	2¼"	2¼"	2¼"
Weight (including mount)	36 oz.		
Length of Scope	22"		
Windage Adjustment Range	±20" at 100 yds.		
Elevation Adjustment Range	+30", −10" at 100 yds.		
Sighting-in Adjustment Ranges	40" at 100 yds.		
Windage and Elevation Adj. per Click (7.2" bases)	¼" at 100 yds.		
Windage and Elevation Adj. per Click (10.6" bases)	⅛" at 100 yds.		
Projected thickness of cross-hairs at center	⅛" at 100 yds		
Projected thickness of cross-hairs at edge of field	2⅝" at 100 yds.		
Parallax Focusing Range	50 ft. to Infinity		
Price, including mount	$160.00		

FREE SCOPE MANUAL



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